



4-1
COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PLANNING AND BUILDING
STAFF REPORT

Tentative Notice of Action

*Promoting the wise use of land
Helping build great communities*

MEETING DATE March 4, 2005 LOCAL EFFECTIVE DATE March 19, 2005 APPROX FINAL EFFECTIVE DATE April 8, 2005	CONTACT/PHONE Lauren Lajoie, Director Lajoie Planning Services (805) 545-7738	APPLICANT Townsend/Nextel Wireless	FILE NO. DRC2004-00059
SUBJECT Hearing to consider a request by Nextel for a Minor Use Permit/Coastal Development Permit to allow a 240 square foot equipment shelter, and the installation of a four foot microwave dish and three panel antennas flush mounted to an existing fifty-five foot monopole currently accommodating two wireless communication facilities. The project will result in the disturbance of approximately 600 square feet of an approximately 103-acre parcel. The proposed project is within the Agriculture land use category and is located at 295 Julian Lane, approximately 0.5 miles west of the intersection of Highway 46 and Highway 1 approximately three miles south from the community of Cambria. The site is in North Coast planning area.			
RECOMMENDED ACTION Approve Minor Use Permit DRC2004-00059 based on the findings listed in Exhibit A and the conditions listed in Exhibit B			
ENVIRONMENTAL DETERMINATION A Class 3 Categorical Exemption (ED04-338).			
LAND USE CATEGORY Agriculture	COMBINING DESIGNATION Local Coastal Program, Coastal Appealable Zone, Terrestrial Habitat, Streams/Riparian Vegetation, Sensitive Resource Area	ASSESSOR PARCEL NUMBER 013-181-020	SUPERVISOR DISTRICT 2
PLANNING AREA STANDARDS: AREAWIDE - 6. Site Selection Does the project meet applicable Planning Area Standards: Yes - see discussion			
LAND USE ORDINANCE STANDARDS: Section 23.07.160 - Sensitive Resource Area (SRA) Section 23.07.174 - Streams and Riparian Vegetation Section 23.07.176 - Terrestrial Habitat Protection Section 23.08.284.b - Wireless Communication Facilities Does the project conform to the Land Use Ordinance Standards: Yes - as conditioned			
FINAL ACTION This tentative decision will become the final action on the project, unless the tentative decision is changed as a result of information obtained at the administrative hearing or is appealed to the County Board of Supervisors pursuant Section 23.01.042 of the Coastal Zone Land Use Ordinance; effective on the 10th working day after the receipt of the final action by the California Coastal Commission. The tentative decision will be transferred to the Coastal Commission following the required 14-calendar day local appeal period after the administrative hearing. The applicant is encouraged to call the Central Coast District Office of the Coastal Commission in Santa Cruz at (831) 427-4863 to verify the date of final action. The County will not issue any construction permits prior to the end of the Coastal Commission process.			

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EXISTING USES: Livestock grazing, Wireless communication facility (Verizon, Cingular)	
SURROUNDING LAND USE CATEGORIES AND USES: <i>North:</i> Agriculture/Undeveloped, Livestock grazing <i>East:</i> Agriculture/Undeveloped, Livestock grazing <i>South:</i> Recreation/Air Force Station (non-operational) <i>West:</i> Agriculture/Undeveloped, Pacific Ocean	
OTHER AGENCY / ADVISORY GROUP INVOLVEMENT: The project was referred to: Public Works, Ag Commissioner, Environmental Health, Cambria Community Services District, California Coastal Commission.	
TOPOGRAPHY: Gently to steeply sloping	VEGETATION: Annual grasses and forbs
PROPOSED SERVICES: Water supply: N/A Sewage Disposal: N/A Fire Protection: California Department of Forestry	ACCEPTANCE DATE: December 23, 2004

DISCUSSION

The site contains two existing wireless facilities, Verizon (D910067V/D900332P) and Cingular (D020128P). The project site currently contains a 55-foot tall monopole with flush mounted antennas attached to the pole. The existing equipment cabinets are screened from Highway 1 by an earthen berm. The proposed project includes a 240 square foot equipment shelter, and the installation of a four-foot microwave dish and three panel antennas flush mounted to the existing fifty-five foot monopole. The existing structure is visible from Highway 1. The flush mounted panel antennae would not increase the visibility of the pole. The microwave dish would not be visible from Highway 1, screened by the existing earthen berm. The proposal would not increase the overall visual impacts associated with the existing wireless facility while providing for the addition of a third carrier at this location.

PLANNING AREA STANDARDS:

The proposed project is subject to Areawide Standard Number 6 addressing site selection. This standard requires site selection for new development be in locations not visible from Highway 1. New development shall be located so that no portion of a structure extends above the highest horizon line of ridge lines as seen from Highway 1. The proposed project is not considered new development, but is a modification to an existing facility. The existing wireless facility is located on a prominent ridge line and is visible from both the north and southbound travel lanes of Highway 1 and from westbound Highway 46. Although the proposed antenna will be mounted to a structure that currently extends above the ridge line, the proposal will not result in an increase in visual impacts because the new antennas will be flushed mounted to the existing pole.

The project contains provisions for improving the visual character of the project site because the proposal includes the provision of camouflaged netting to screen all existing and proposed ground mounted equipment from Highway 46.

LAND USE ORDINANCE STANDARDS:

The project is located on a parcel containing numerous combining designations. The property contains Sensitive Resource Areas, Terrestrial Habitat, and Sensitive Riparian Vegetation. The project site is located on a portion of the property that does not contain any identified sensitive resources (refer to the land use category map). The project site is served by an existing paved road that was constructed many years ago to serve the former Air Force Base.

SECTION 23.08.284.b. - WIRELESS COMMUNICATION FACILITIES

RF Report

The communication facilities section of the Land Use Ordinance requires that applications for communication facilities provide estimates of non-ionizing radiation generated and/or received by the facility. Dtech Communications, LLC, prepared a Radio Frequency Power Density Emissions Study, dated November 10, 2004, for this site. The report concludes the project site's cumulative exposure levels are well below FCC standards

Co-location

The ordinance encourages the installation of wireless communication facilities on existing structures. The proposed project includes the installation of antennas on an existing 55-foot monopole. The antennas will be flush mounted to the pole and the associated cables will be installed in a location not visible from public roadways or the ocean. An earthen berm was constructed by the original carrier to screen the equipment compound and the berm was required to be augmented as a condition of approval for the second carrier. Although the additional berming was recently completed, this project has been conditioned to provide the berm to assure existing berm is a condition for all projects and will be maintain by all carriers operating at this location. The applicant is proposing to locate the equipment shelter behind the earthen berm in a previously disturbed area currently surrounded by a chain link fence.

COASTAL PLAN POLICIES:

Shoreline Access: ☒ N/A
 Recreation and Visitor Serving: ☒ N/A
 Energy and Industrial Development: ☒ N/A
 Commercial Fishing, Recreational Boating and Port Facilities: ☒ N/A
 Environmentally Sensitive Habitats: ☒ N/A
Agriculture: Policy No(s): 1 and 3
 Public Works: ☒ N/A Policy No(s):
 Coastal Watersheds: ☒ N/A Policy No(s):
Visual and Scenic Resources: Policy No(s): 1, 2, 4, and 8
 Hazards: ☒ N/A Policy No(s):
 Archeology: ☒ N/A Policy No(s):
 Air Quality: ☒ N/A Policy No(s):

Does the project meet applicable Coastal Plan Policies: Yes, as conditioned

COASTAL PLAN POLICY DISCUSSION:

There are several Coastal Plan Policies relating to agricultural and visual resources that apply to the proposed project.

Agriculture

The project is located in the agricultural land use category, but is not located on prime soils and the construction and operation of the modified facility will not adversely impact the existing

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Planning Department Hearing
Minor Use Permit DRC200400059/Townsend/Nextel
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agricultural operations on the property (Department of Agriculture, September 22, 2004). The proposal is consistent with the following Coastal Policies:

Policy 1 - Maintaining Agricultural Lands

Policy 3 - Non-Agricultural Uses

Visual and Scenic Resources

Development is to be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas and where feasible, to restore and enhance visual quality in visually degraded areas. The proposed project will not increase the visibility of the existing monopole and, with the addition of camouflaged netting, will reduce the visual impacts associated with the existing and proposed ground mounted equipment from Highway 46. The proposal is consistent with the following Coastal Policies:

Policy 1 - Protection of Visual and Scenic Resources

Policy 2 - Site Selection for New Development

Policy 4 - New Development in Rural Areas

Policy 8 - Utility Lines within View Corridors

AGENCY REVIEW:

Public Works - No significant impacts

Environmental Health – Need clearance

Ag Commissioner - No significant impacts

Cambria Community Services District (Fire) - No comment

California Coastal Commission - No response

LEGAL LOT STATUS:

The parcel was legally recognized through Certificates of Compliance.

Staff report prepared by Lauren Lajoie, Lajoie Planning Services, and reviewed by Marsha Lee, County Coastal Planner

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EXHIBIT A - FINDINGS

CEQA Exemption

- A. The project qualifies for a Categorical Exemption (Class 3) pursuant to CEQA Guidelines Section 15303 because the project is a minor modification to an existing facility.

Minor Use Permit/Coastal Development Permit

- B. The proposed project or use is consistent with the San Luis Obispo County General Plan because the use is an allowed use and as conditioned is consistent with all of the General Plan policies.
- C. As conditioned, the proposed project or use satisfies all applicable provisions of Title 23 of the County Code.
- D. The establishment and subsequent operation or conduct of the use will not, because of the circumstances and conditions applied in the particular case, be detrimental to the health, safety or welfare of the general public or persons residing or working in the neighborhood of the use, or be detrimental or injurious to property or improvements in the vicinity of the use because the unmanned wireless communication facility does not generate activity that presents a potential threat to the surrounding property and buildings and the Radio Frequency report prepared for this site concluded the maximum cumulative RF level that will be generated is 4% of the applicable public limit. This project is subject to Ordinance and Building Code requirements designed to address health, safety and welfare concerns.
- E. As conditioned, the proposed project or use will not be inconsistent with the character of the immediate area or contrary to the orderly development because the site currently contains two wireless communications facilities and the proposed use is similar to and will not conflict with the surrounding lands and uses.
- F. The proposed project or use will not generate a volume of traffic beyond the safe capacity of all roads providing access to the project, either existing or to be improved with the project because the project is located on Julian Road, a local road constructed to a level able to handle any additional traffic associated with the project. The only traffic associated with the project is a single vehicle performing routine maintenance every four to six weeks.

Coastal Access

- G. The proposed use is in conformity with the public access and recreation policies of Chapter 3 of the California Coastal Act, because the project is not adjacent to the coast and the project will not inhibit access to the coastal waters and recreation areas.

Sensitive Resource Area

- H. The development will not create adverse effects on natural features of the site or vicinity that were the basis for the Sensitive Resource Area designation, because all proposed

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Planning Department Hearing
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improvements are located at least 1000 feet from any sensitive resource and improvements are within a previously disturbed area.

- I. Natural features and topography have been considered in the design and siting of all proposed physical improvements.
- J. The proposed clearing of topsoil, trees, is the minimum necessary to achieve safe and convenient access and siting of proposed structures, and will not create adverse effects on the identified sensitive resources.
- K. The soil and subsoil conditions are suitable for any proposed excavation and site preparation and drainage improvements have been designed to prevent soil erosion, and sedimentation of streams through undue surface runoff.

EXHIBIT B - CONDITIONS OF APPROVAL

Approved Development

1. This approval authorizes the installation and operation of wireless communication facilities, including the following improvements:
 - a. Three antennas flush mounted to existing 55-foot monopole
 - b. Four-foot microwave dish
 - c. 240- square foot equipment shelter

Site Development

2. Site Development shall be consistent with the approved site plan and elevations.
3. The applicant agrees to allow other carriers to co-locate at this site, if technically feasible, subject to land use permit approval.
4. If new technology is developed that reduces the impacts of the proposed project, the applicant agrees to install such improvements within 6 months of notification by the county.
5. The facility shall not be operated until all conditions of approval have been met and all required building permits have received a final inspection.

Site Restoration

6. **Prior to issuance of a construction permit**, the applicant shall post a performance bond with the County in an amount commensurate with the cost of facility removal and site restoration. The performance bond shall be released by the County at the time the facility is removed and the site is restored.
7. All obsolete or unused facilities shall be removed within twelve months of cessation of the applicant's wireless communication operations on the site. The applicant shall be responsible for the removal of such facility and all appurtenant structures and restoration of the site to pre-project condition. Restoration does not include removal of vegetation planted to provide visual screening. At the time the use of the facility is discontinued the owner of the facility must notify the Department of Planning and Building.

Electric and Magnetic Fields

8. The facility shall be designed and operated to ensure that power densities received from transmissions, with all transmitters at the site transmitting at full power, will comply with federal law and regulation.

Explanatory Warning Signage for Occupational Exposures

9. **Prior to final inspection**, explanatory warning signs* to prevent occupational exposures in excess of the FCC guidelines are to be posted at the equipment shelter gate and on the antennas such that they would be readily visible from any angle of approach to

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persons who might need to work near the antennas. (*Warning signs should comply with ANSI C95.2 color, symbol, and content conventions. In addition, contact information should be provided (e.g., a telephone number) to arrange for access to restricted areas.)

Lighting

10. No exterior lighting is approved for the project.

Visual and Aesthetic Impacts

11. **Prior to final inspection**, the entire antenna assembly (monopole, antenna, brackets, cables, etc.) shall be painted a light gray to blend with the background sky on a sunny day (i.e. Madison Grey (#8256, previously Drum Hill Gray; Q15-19T, at San Luis Paint Factory, or equivalent). The color to be used shall be matte finish. This color shall be maintained for the life of the project. Repainting shall occur as necessary.
12. Improvements other than the antenna(s) (equipment enclosure, microwave dishes, fencing, etc.) shall be located in an area that is not visible from public streets.
13. **Prior to final inspection**, the applicant shall augment the existing berm as necessary to adequately screen the existing and proposed equipment shelters from public view.
14. **Prior to final inspection**, the applicant shall place camouflage netting over all ground-mounted equipment so as to not be visible from Highway 46.
15. **Prior to final inspection**, the applicant shall vegetate all areas disturbed by project activities. Seed mix shall consist of native grasses compatible with existing vegetation. Revegetation shall be maintained until established to the satisfaction of the County Department of Planning and Building.

Access

16. Contractors shall coordinate construction activities with the property owner to minimize any inconvenience or disruption to livestock grazing operations. Site access for construction and maintenance shall be from existing roads only. No road improvements shall occur.

Archaeology

17. **During construction**, in the event archaeological resources are unearthed or discovered, the following standards apply:
- Construction activities shall cease and the Environmental Coordinator and Planning Department shall be notified so that the extent and location of discovered materials may be evaluated by a qualified archaeologist, and disposition of artifacts may be accomplished in accordance with state and federal law. The applicant shall implement the mitigation as required by the Environmental Coordinator.
 - In the event archaeological resources are found to include human remains, or in any other case where human remains are discovered during construction, the County Coroner is to be notified in addition to the Planning Department and Environmental Coordinator so that proper disposition may be accomplished.

Mitigation Monitoring/Condition Compliance

18. **Prior to issuance of a construction permit**, a “condition compliance” sheet shall be added to construction plans that includes a complete copy of the final conditions of approval for the project.
19. **Prior to issuance of a construction permit**, all parties involved must have a clear understanding of the mitigation measures as adopted and shown on project plans. The Mitigation Compliance Coordinator (MCC) shall prepare a specific list of mitigation measures that pertain to his or her monitoring tasks and the appropriate time frame that these mitigations are anticipated to be implemented.
20. **Prior to issuance of a construction permit**, the applicant shall identify a Mitigation Compliance Coordinator (MCC) to ensure all conditions of approval and mitigation requirements are met. The MCC shall be the County’s contact and shall be responsible to ensure all mitigation requirements are met. A pre-construction meeting shall take place between the MCC and the County to review the application and establish the responsibility and authority of the participants.
21. **Prior to final inspection**, the MCC will incorporate the findings of the monitoring effort into a final comprehensive construction monitoring report to be submitted to the County of San Luis Obispo.
22. **Prior to final inspection**, the applicant shall implement all approved design mitigation measures including, but not limited to:
 - a. Approved colors
 - b. Camouflage netting
 - c. Height and location of structures and improvements
23. **Prior to occupancy of any structure associated with this approval**, the applicant shall contact the Department of Planning and Building to have the site inspected for compliance with the conditions of this approval.

Undergrounding of Utilities

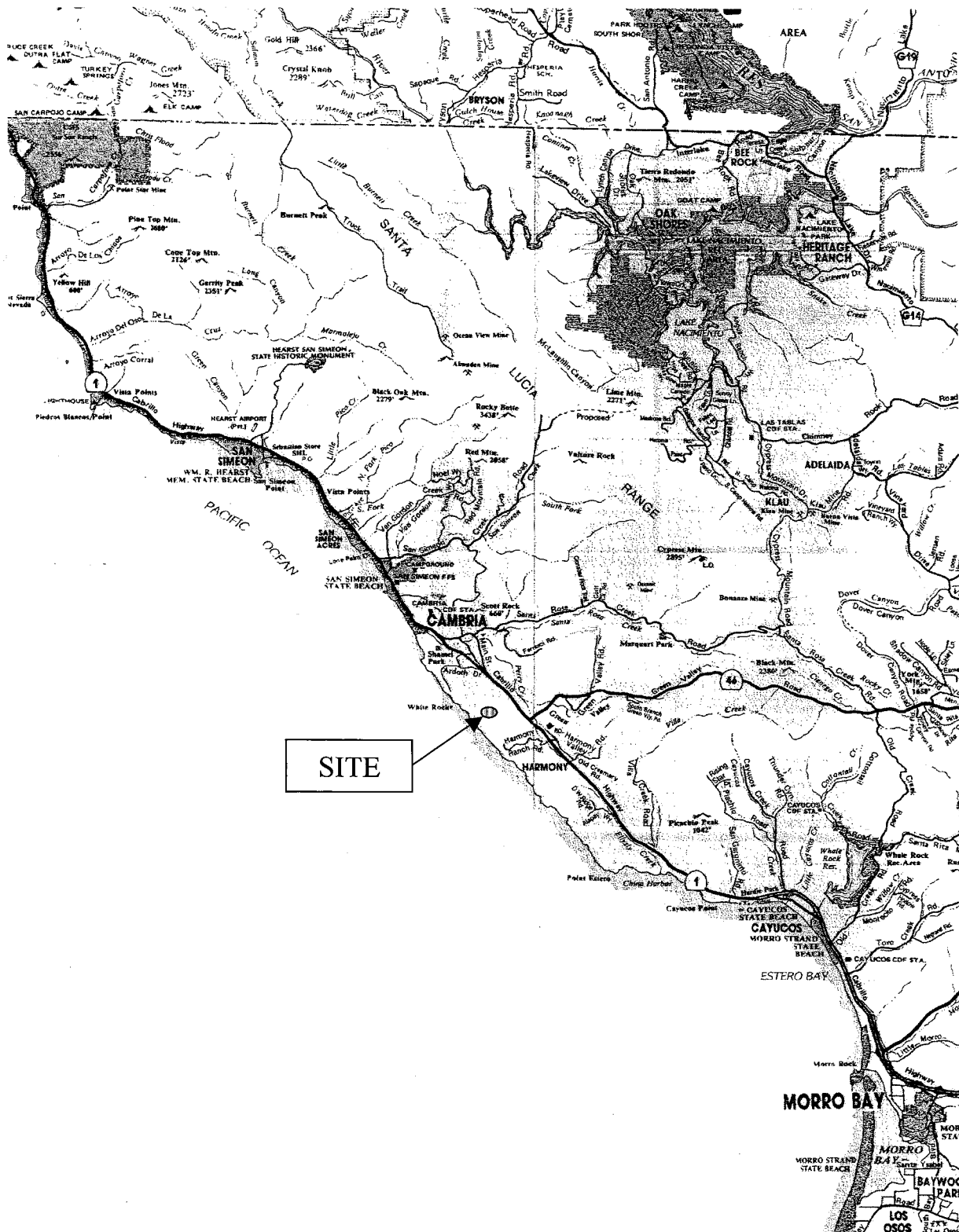
24. The applicant shall install all utilities serving the project underground rather than by use of poles and overhead lines.

Miscellaneous

25. **Prior to issuance of a construction permit**, the applicant shall provide verification from the San Luis Obispo County Air Pollution Control District that the project is exempt from the requirements of the Air Resources Board Air Toxics Control Measures.
26. **Prior to issuance of a construction permit**, the applicant shall provide verification from the San Luis Obispo County Environmental Health Department that the project meets all applicable requirements.
27. This permit is valid for a period of 24 months from its effective date unless time extensions are granted pursuant to Land Use Ordinance Section 23.02.050.

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SAN LUIS OBISPO COUNTY DEPARTMENT OF PLANNING AND BUILDING



PROJECT

Townsend/Nextel;
DRC2004-00059



EXHIBIT

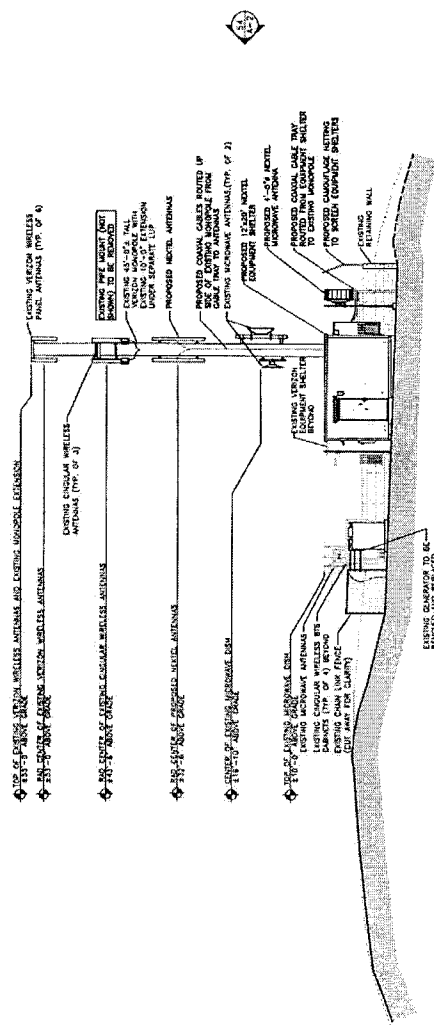
Vicinity Map

SAN LUIS OBISPO COUNTY DEPARTMENT OF PLANNING AND BUILDING

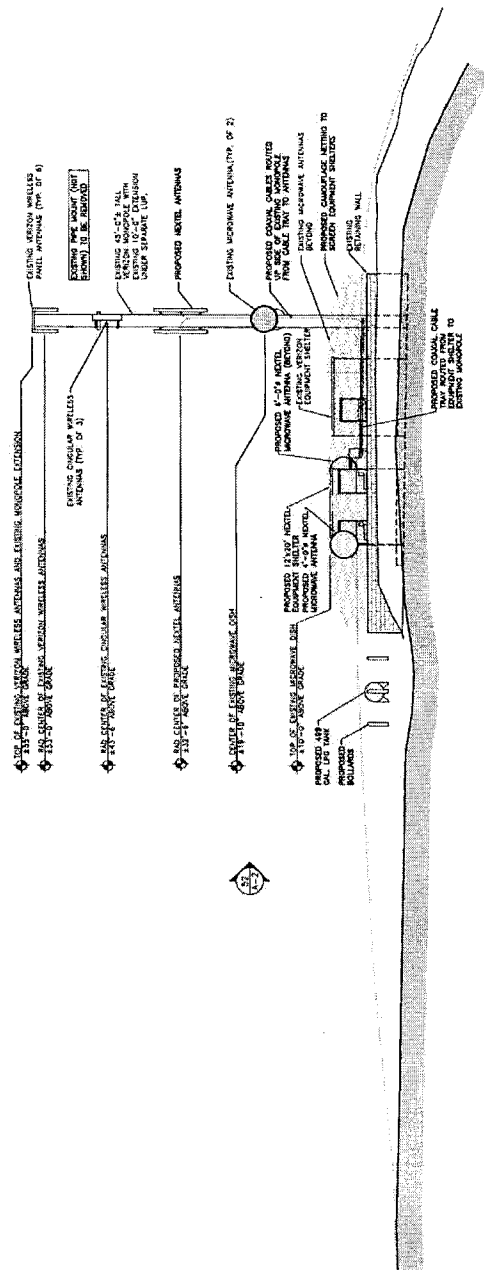


EXHIBIT

Land Use Category Map



52) SOUTHWEST ELEVATION



54 SOUTHEAST ELEVATION SCALE 1/8"=1'-0"

PROJECT

**Townsend/Nextel;
DRC2004-00059**

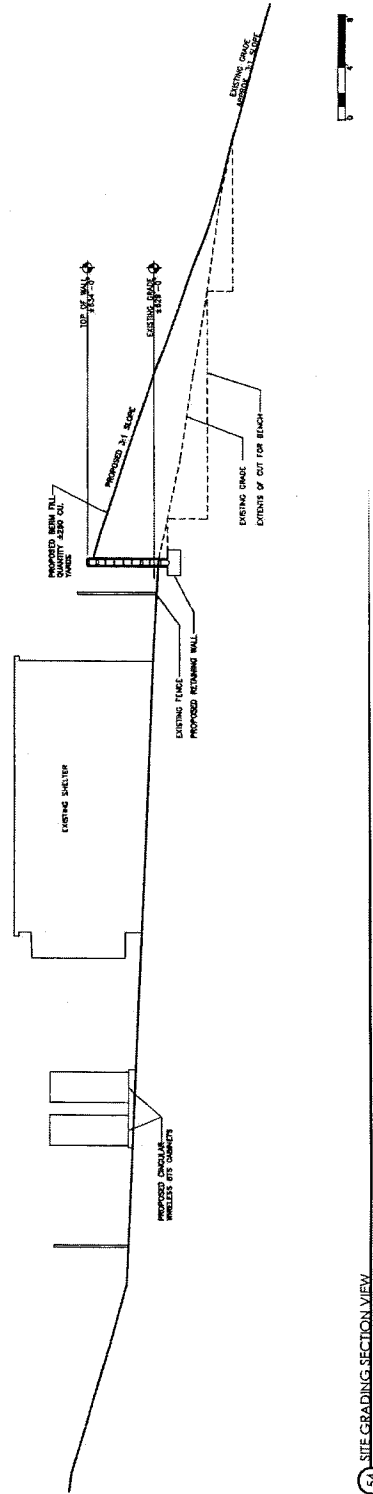
**EXHIBIT**

Elevations

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SAN LUIS OBISPO COUNTY DEPARTMENT OF PLANNING AND BUILDING

NOTE: THE EXISTING SIDE OF THE ROAD IS THE EXISTING SIDE OF THE ROAD. THE EXISTING SIDE OF THE ROAD IS THE EXISTING SIDE OF THE ROAD.



6. SITE GRADING SECTION VIEW

PROJECT

Townsend/Nextel;
DRC2004-00059

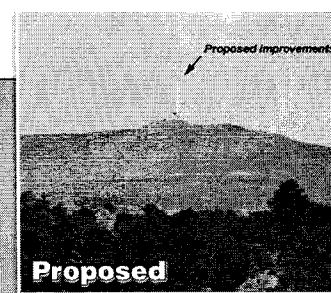
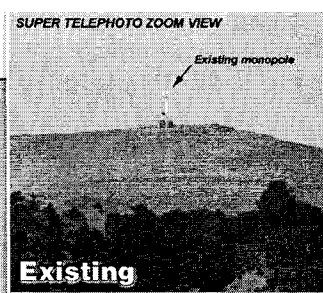
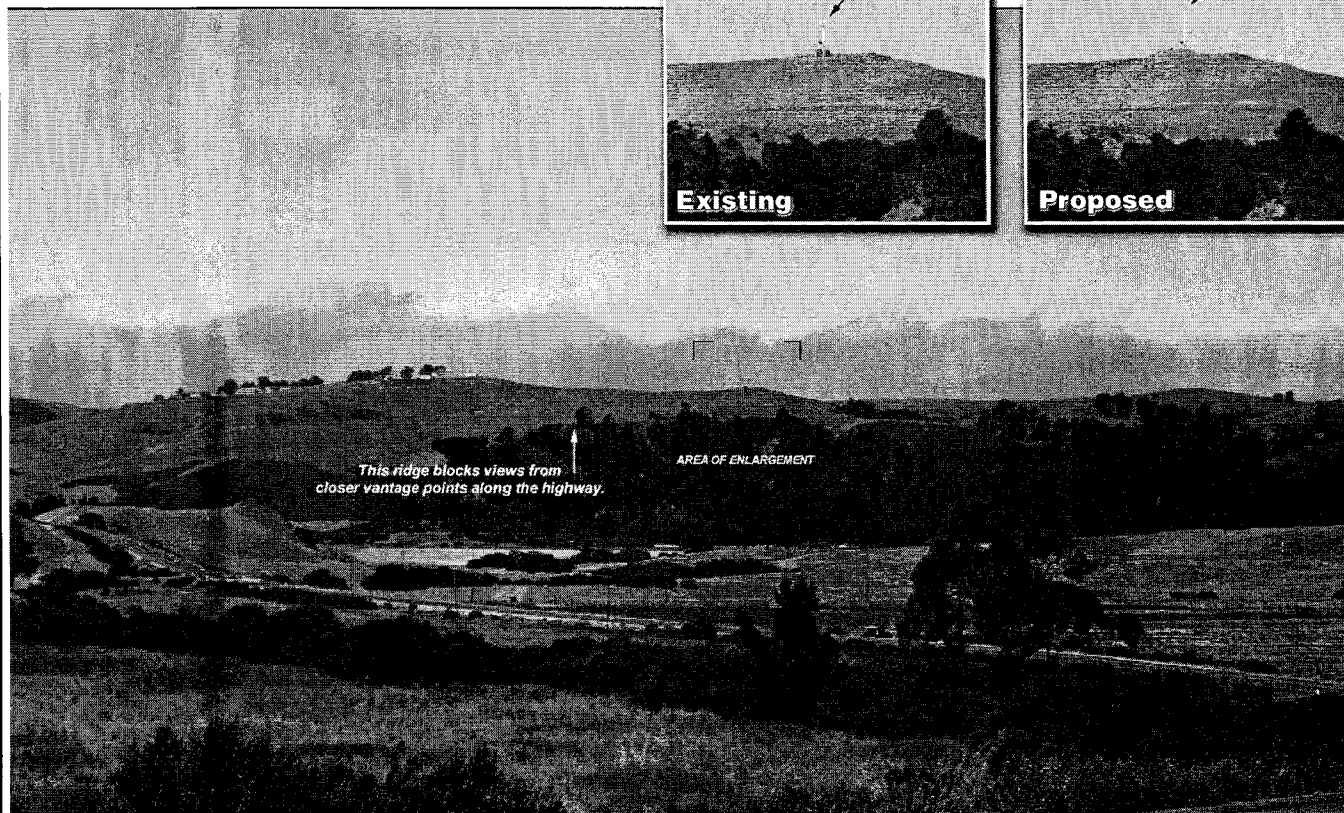


EXHIBIT

Berm Plan

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**Photosimulation of view looking west
from westbound Hwy 46, (2.25 miles away).**



PROJECT

Townsend/Nextel;
DRC2004-00059

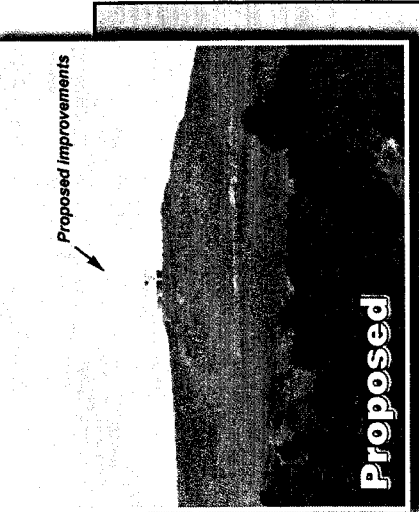
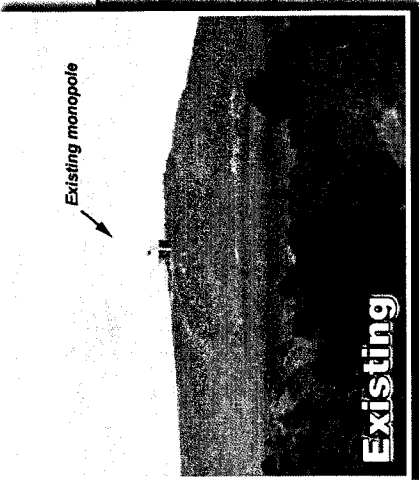


EXHIBIT

Photosimulation

Photosimulation of view looking west from westbound Hwy 46.

6/27/2004



This ridge blocks views from
closer vantage points along the highway.



The Ranch
295 Julian Lane
Harmony, CA

CA-7892B

NEXTEL

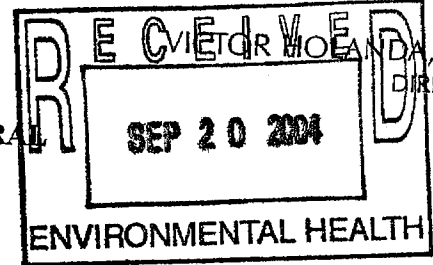


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SAN LUIS OBISPO COUNTY
DEPARTMENT OF PLANNING AND BUILDING

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 SEP 24 2004

Planning & Bldg

THIS IS A NEW PROJECT REFERRAL



VICTOR MOLENDAR, AICP
 DIRECTOR

DATE:

9/17/04

TO:

Env. Health

FROM:

Coastal Team / mwl

(Please direct response to the above)

TOWNSEND

DRC2004-00059

Project Name and Number

* MARSHA LEE

Development Review Section (Phone: 781-788-2009)

(788-2008)

PROJECT DESCRIPTION:

MUP -> cell site in Cambria/Harmony, off Julian Ln. (Alter/Add cellular communications equipment to existing cell site compound. Visible from Hwy. 46. Nextel/Mario Musso/Townsend project.

Return this letter with your comments attached no later than:

10/01/04

PART I

IS THE ATTACHED INFORMATION ADEQUATE FOR YOU TO DO YOUR REVIEW?

____ YES
 ____ NO

(Please go on to Part II)

(Call me ASAP to discuss what else you need. We have only 30 days in which we must accept the project as complete or request additional information.)

PART II

ARE THERE SIGNIFICANT CONCERNS, PROBLEMS OR IMPACTS IN YOUR AREA OF REVIEW?

____ NO
 ____ YES

(Please go on to Part III)

(Please describe impacts, along with recommended mitigation measures to reduce the impacts to less-than-significant levels, and attach to this letter.)

PART III

INDICATE YOUR RECOMMENDATION FOR FINAL ACTION. Please attach any conditions of approval you recommend to be incorporated into the project's approval, or state reasons for recommending denial. IF YOU HAVE "NO COMMENT," PLEASE INDICATE OR CALL.

Applicant shall submit for review and approval the hazardous materials business plan for the proposed cell site to this office. Plans will need to be approved prior to final approval of the MUP. Contact Aaron LaBare at 781-5595 if you have any questions. Thank you.

9/23/04

Date

Lauri Salo

Name

781-5551

Phone



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COUNTY OF SAN LUIS OBISPO

Department of Agriculture/M Measurement Standards

2156 SIERRA WAY, SUITE A • SAN LUIS OBISPO, CALIFORNIA 93401-4556
ROBERT F. LILLEY
AGRICULTURAL COMMISSIONER/SEALER

(805) 781-5910

FAX (805) 781-1035

AgCommSLO@co.slo.ca.us

DATE: September 22, 2004

TO: Marsha Lee, Planner III

FROM: Lynda L. Auchinachie, Agriculture Department

SUBJECT: Townsend Minor Use Permit DRC2004-00059 (0954)

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Summary of Findings

The Agriculture Department's review finds that the proposed Townsend Minor Use Permit for a cell site resulting in 600 square feet of disturbance on approximately 103 acre parcel currently used for grazing will have:

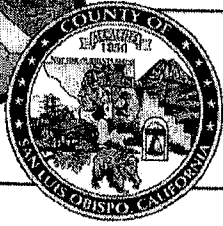
- ☐ **Potential** to create a significant environmental impact(s) to agricultural resources or operations.
- ☒ **Less than significant** impact(s) to agricultural resources or operations because the project will not result in the conversion of prime agricultural soils or be incompatible with existing on-site or adjacent agricultural uses. During construction activities, the responsible party should work with the property owner to minimize the disruption to existing grazing activities.
- ☐ No anticipated impact to agricultural resources or operations.

Comments and recommendations are based on policies in the San Luis Obispo County Agriculture and Open Space Element, the Land Use Ordinance, the California Environmental Quality Act (CEQA), and on current departmental policy to conserve agricultural resources and to provide for public health, safety and welfare while mitigating negative impacts of development to agriculture.

If you have questions, please call 781-5914.

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CDF/San Luis Obispo County Fire Department

635 N. Santa Rosa • San Luis Obispo • California 93405

November 2, 2004

County of San Luis Obispo
Department of Planning and Building
County Government Center
San Luis Obispo, CA. 93408

Project Number: DRC2004-00059 (Townsend)

Dear Mr. Townsend,

I have reviewed the project for a wireless communication facility located at 295 Julian Lane near Harmony, CA. This project is located approximately 15 minutes from the closest CDF/San Luis Obispo County Fire Station. The project is located in State Responsibility Area for wildland fires. It is designated a High Fire Severity Zone. This project is required to comply with all fire safety rules and regulations including the California Fire Code, the Public Resources Code and any standards referenced therein. Because this project is located in agriculture land, or an area designated sensitive habitat the following minimum requirements are required.

1. During construction, activities that pose an ignition source will have to comply with fire safety laws. This includes welding activities and use of heavy equipment. All equipment will have to be in compliance. Consideration of fuel breaks or other treatment in construction area. If a fire ignites due to construction activities the responsible party may be liable for suppression costs.
2. An access road and driveway that meets CDF requirements is not required but is recommended.
3. Maintain around all structures a 100 foot firebreak. This does not include fire resistive landscaping.
4. Maintain any tree adjacent to or overhanging any building free of deadwood.
5. Maintain the roof of any structure free of leaves, needles or other flammable material.
6. A fire extinguisher with a minimum rating of 4A 60BC is required inside the facility.
7. We recommend, not require, fire sprinklers or other extinguishing agent in the structure and a 2500 gallon water storage tank with a hydrant

ML

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If I can provide additional information or assistance on this mater please call me at (805)543-4244.

Sincerely,

Clint Bullard

Clint Bullard, Fire Inspector

Cc: Townsend, Applicant
Nextel Communications, Agent

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RADIO FREQUENCY POWER DENSITY EMISSIONS STUDY

For

Site: CA7892B, Townsend Ranch

**Located at:
295 Julian Lane
Harmony, CA 93428**

Prepared by:

**Darang Tech, P.E.
Dtech Communications, LLC
11401 Pacific Shores Way
San Diego, CA 92130
(Consulting Engineers)**



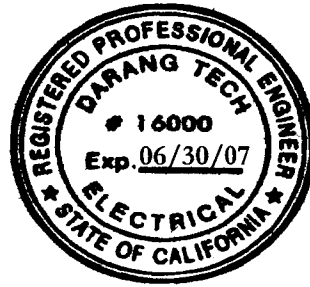
November 10th, 2004

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The special provisions contained herein have been prepared by or under the direction of the following Registered Persons.



Darang Tech



INTRODUCTION

The engineering staff at Dtech Communications, LLC does not establish the guidelines used to insure safety exposure levels emitted from Radio Frequency (RF) Electromagnetic Fields associated with SMR, Cellular, PCS, radio and television equipment. Dtech uses the guidelines and standard adopted by the Federal Communications Commission in 1996 and further amended in August 1997 by a Second Memorandum Opinion and Order. The guidelines established Maximum Permissible Exposure (MPE) Limits well below a level the majority of the scientific community believes may pose a health risk. The FCC uses these MPE Limits to regulate RF exposure levels on all wireless communication facilities.

The first step in evaluating compliance is to determine whether the facility is “categorically excluded”. The FCC has determined through calculations and technical analysis that due to their low power and height above ground level, many facilities by their very nature are highly unlikely to cause human exposures in excess of the guideline limits, and operators of those facilities are exempt from routinely having to determine compliance. Facilities with these characteristics are considered “categorically excluded” from the requirement for routine, initial environmental processing for RF exposure. Therefore, if a facility is categorically excluded, the owner or licensee may ordinarily assume compliance with the guideline limits for exposure. Tables 1 below are the criteria for categorical exclusion.

Table 2: Categorical Exclusion criteria

SERVICE (TITLE 47 CFR RULE PART)	EVALUATION REQUIRED IF:
Cellular Radiotelephone Service (subpart H of part 22)	<u>non-building-mounted antennas</u> : height above ground level to lowest point of antenna < 10 m <u>and</u> total power of all channels > 1000 W ERP (1640 W EIRP) <u>building-mounted antennas</u> : total power of all channels > 1000 W ERP (1640 W EIRP)
Personal Communications Services (part 24)	(1) Narrowband PCS (subpart D): <u>non-building-mounted antennas</u> : height above ground level to lowest point of antenna < 10 m <u>and</u> total power of all channels > 1000 W ERP (1640 W EIRP) <u>building-mounted antennas</u> : total power of all channels > 1000 W ERP (1640 W EIRP) (2) Broadband PCS (subpart E): <u>non-building-mounted antennas</u> : height above ground level to lowest point of antenna < 10 m <u>and</u> total power of all channels > 2000 W ERP (3280 W EIRP) <u>building-mounted antennas</u> : total power of all channels > 2000 W ERP (3280 W EIRP)

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If the facility is NOT categorically excluded, then a study to determine potential exposure is required and the results must comply with the FCC MPE limits. Even though a facility may not be categorically excluded, no further environmental processing is required once it has been demonstrated that exposures are within the guidelines. Tables 2 are the FCC's MPE Limits.

Table 2: FCC Maximum Permission Exposure (MPE) Limits

Frequency (Mhz)	General Public/Uncontrolled MPE (mW/cm ²) (Average time @ 30 minutes)	Occupational/Controlled MPE (mW/cm ²) (Average time @ 6 minutes)
30-300	.2	1.0
300-1500	Frequency (Mhz)/1500	Frequency (Mhz)/300
1500-100,000	1.0	5.0

General population/uncontrolled limits apply in situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment, and may not be fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public always fall under this category when exposure is not employment-related.

Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment, and those persons have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

PROPOSED SITE DESCRIPTION

The subject site is situated on an existing communication facility of the Townsend Ranch located at 295 Julian Rd., Cambria, CA 93428. The proposed Nextel installation consists of three sectors (faces), each containing one (1) directional panel antennae designed to radiate energy in a particular direction. The antennae are mounted on an existing monopole along with Verizon and Cingular. The entire facility is fenced off to limit unauthorized access. Areas inside the fence are subject to the FCC's Controlled/ Occupational MPE Limit while elsewhere is subject to the Uncontrolled/General Public MPE Limit. Please refer to the attached drawings and *table 3* below for site configurations used for the computer simulation. Also, note that the proposed microwave dish is omitted from the computer simulation due to the fact that microwave systems are designed to operate in a line-of-sight and point-to-point application. Therefore, the antenna beam width (width of the signal) is very narrow

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and will not contribute significant signal on the ground. Compared to the levels resulting from the cell site antennae, the microwave signal on the ground is negligible.

Table 3: Site Configurations

	Nextel Sectors (α, β, γ)	Cingular Sectors (α, β, γ)	Verizon Sectors (α, β, γ)
ERP per channel (Watts)	61	200	200
Total channels per sector	20	10	5
Max composite ERP per sector (Watts)	1220	2000	1000
Antenna Radiation Center Height Above Ground (feet)	32.5	43.5	53
Frequency	SMR (806-866Mhz)	PCS (1850-1990Mhz)	Cellular (824-896Mhz)
Antenna make/model	EMS Wireless DR65-12-05DBL	EMS Wireless RR90-17-00	Andrew DB844G90

MPE LEVEL CALCULATION

Dtech Communications uses the FCC's guidelines for predicting emission levels as described in OET (Office of Engineering & Technology) Bulletin No. 65 "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Radiation". Please refer to appendix A for the brief electromagnetic theory behind our calculations. As a conservative measure, the cumulative MPE analysis is performed under worse case conditions: (a) both near field and far field models are used; (b) all transmitters transmit at maximum power and maximum number of channels available; (c) all transmitters transmit simultaneously; (d) calculation points are performed at bore sight or in the antenna's main beam; (e) for multiple carriers, each carrier's exposure is combined to obtain the cumulative MPE at the facility. Actual powers are typically well below the worse case conditions depending on the number of channels occupied at any given time. In addition, each carrier has different antenna azimuths therefore worse case condition for each carrier occurs at different points in space. To simply sum up all the worse case conditions, as in this analysis, is unrealistic in the real world. However, it does give a good conservative picture of the upper limit.

RESULTS

Since Nextel's power output is more than 1000 watts ERP, it is not **"categorically excluded"** and thus a study to determine potential exposure is required. Calculations will be made for both Controlled and Uncontrolled environments, namely inside and outside the fence respectively. Figures 1 & 2 below are the corresponding results.

Figure 1: Expected emission levels compared to FCC's Occupational/ Controlled MPE Limit calculated at human height **inside** the fences.

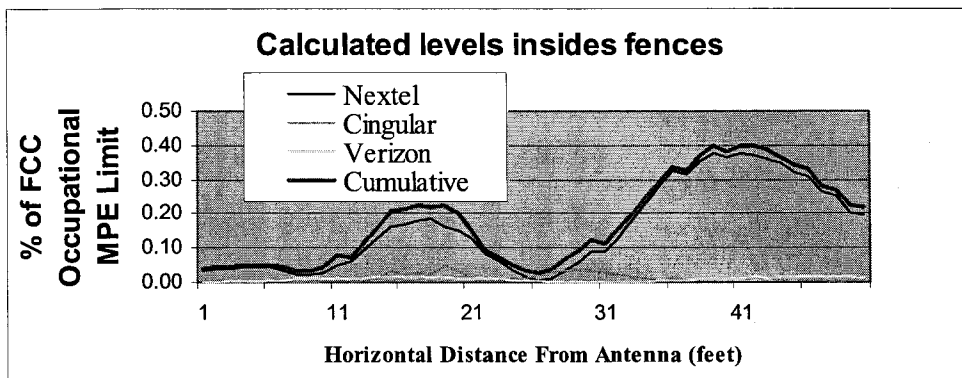
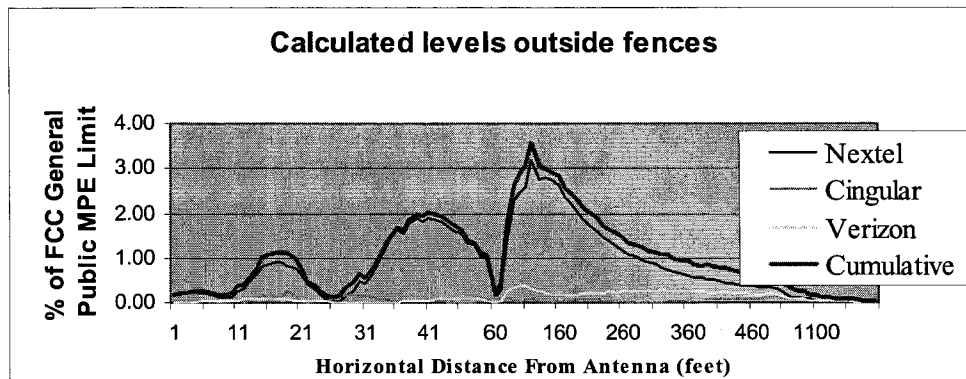


Figure 2: Expected emission levels compared to FCC's General Public/ Uncontrolled MPE Limit calculated at human height **outside** the fences.



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Conclusion

This report was intended to illustrate that Dtech Communications uses sound theory and assumptions as described by the FCC to calculate exposure levels expected from Nextel's proposal as well as existing sites. As depicted in figures 1&2 above, the maximum exposure levels expected from all three base stations never exceeded **0.5% and 4%** of the FCC's Controlled and Uncontrolled MPE Limits respectively. It should be pointed out again that these results reflect the maximum number of channels available and should be considered as the upper limit. We have presented the worst-case scenario to demonstrate that the expected exposure levels comply with the FCC Radiofrequency Safety Guidelines.

Recommendation(s)

The following action(s) are recommended:

- As a general safety practice, information or notice signs should be posted on the gate to inform possible hikers of transmitting antennae inside the fence. It is reasonable to assume that Nextel tower climbers are aware of the active antennae on the tower and to remain at a minimum of 5 feet away or deactivate the site prior to working on them.

Appendix A:

Electromagnetic Emissions Theory

Discussed below is an abbreviated explanation of the theory behind Dtech Communications' electromagnetic studies. This explanation is for individuals with no background in Electromagnetic Theory and may seem oversimplified by individuals with some exposure to RF propagation theory.

The power density surrounding an antenna varies as a function of location, distance and orientation. The fields around an antenna may be divided into two principal regions: (a) near-field (Cylindrical) and (b) far-field (Spherical). The boundary between the two is defined as $R=2D^2/\lambda$ where D is the maximum physical dimension of the antenna and λ is the wavelength. It is necessary to predict both the near and far field power density of an antenna array. The predicted result is averaged over the human body with the assumption that the human body is 2 meters tall.

The Far Field (Spherical) Model

As described by the FCC, a prediction for power density in the far field of a single radiating point antenna can be derived from the following general equation:

$$S = PG_i / (4\pi r^2) \quad \text{Eq. 1}$$

Where:

S is the power density

P is the power input into the antenna

G_i is the gain of the antenna relative to an isotropic radiator

r is the distance from the antenna

Equation 1 can be modified to consider the following: First, since the power radiated is not a point source, the Effective Radiated Power (ERP) is used. Second, the FCC calculates the power based upon a half wave dipole (2.15 dB gain correction factor). Third, multiple channels are combined and transmits them through one antenna. Therefore, the total composite ERP is used. Fourth, a 2.56 multiplication factor is added to help compensate for reflected waves. Lastly, antennas have both horizontal and vertical components. When the antenna is mounted on a structure, distortion will occur. Therefore, the deep nulls in the antenna pattern are removed for calculations to more closely model the actual pattern from the antenna at a cell site. In other words, only the vertical component is factored into the calculations. (Ignoring the horizontal component will give a worst-case calculation).

The modified formula is:

$$S = \frac{ERP * 10^6 * 1.64 * A * 2.56}{4 * \pi * r^2} \quad \text{W/cm}^2 \quad \text{Eq. 2}$$

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where:

S is the Power Density (W/cm²)

ERP is the composite Effective Radiated Power in Watts (W)

A is the antenna pattern attenuation ratio relative to the main lobe gain

r is the horizontal distance to the antenna

The Near Field (Cylindrical) Model

The near field power density prediction may be modeled by treating the vertical collinear antenna as an array of *N* elements spaced one wavelength apart. The contribution from each element is summed vectorially and divided by area of a unit sphere to obtain the power density.

The general formula is

$$S(\theta, \phi) = \text{EIRP}(\theta, \phi) / (4\pi r^2) \quad \text{Eq. 3}$$

Where:

EIRP(θ, ϕ) is the effective isotropic radiated power at a particular azimuth θ and elevation ϕ , is found by extrapolating the published horizontal and vertical gain patterns of the antenna to form a three-dimensional antenna gain pattern

r is the distance from the antenna

With the adjustments noted in the above far field model, the modified formula is as follows:

$$S = \frac{\text{ERP} * 10^6}{4 * \pi * r * D * H / 360} \text{ W/cm}^2 \quad \text{Eq. 4}$$

where:

S is the Power Density (W/cm²)

ERP is the composite Effective Radiated Power in Watts (W)

D is the vertical antenna aperture

H is the 3dB horizontal beam width of the antenna pattern

r is the horizontal distance to the antenna

Appendix B:**References**

- [1] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation, Second Memorandum Opinion and Order*, ET Docket 93-62, adopted August 25, 1997.
- [2] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation, Report and Order*, ET Docket 93-62, FCC 96-326, adopted August 1, 1996. Federal Register 41006 (1996).
- [3] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation, Notice of Proposed Rulemaking*, ET Docket 93-62, 8 FCC Rcd 2849 (1993).
- [4] The Telecommunication Act of 1996, 47 U.S.C. Section 332 (c)(7)(B)(iv).
- [5] www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/
www.fcc.gov/oet/rfsafety

Attachment(s):

- Site data sheet provided by Nextel
- Site drawings

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Nextel Communications RF Data Sheet

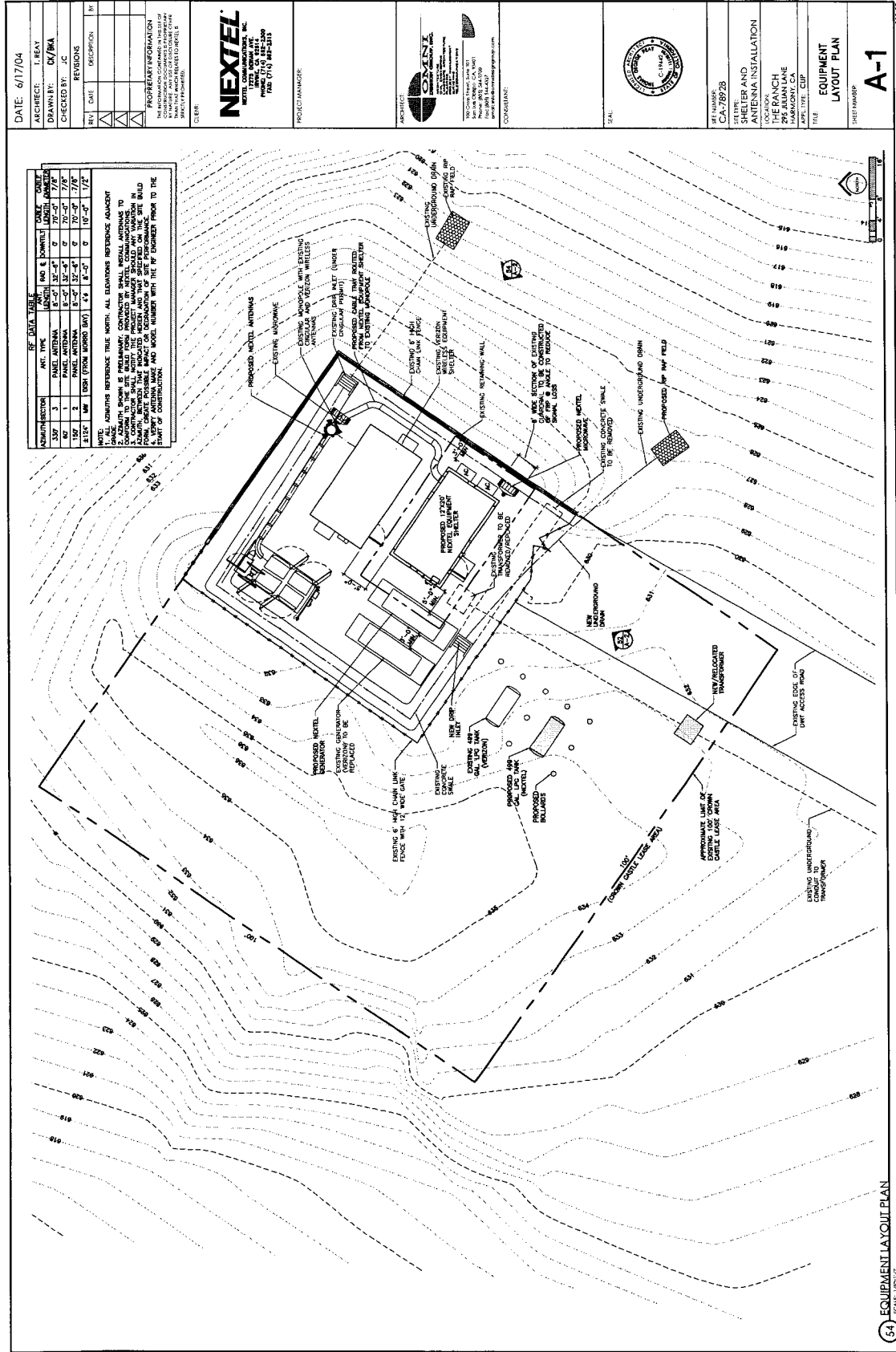
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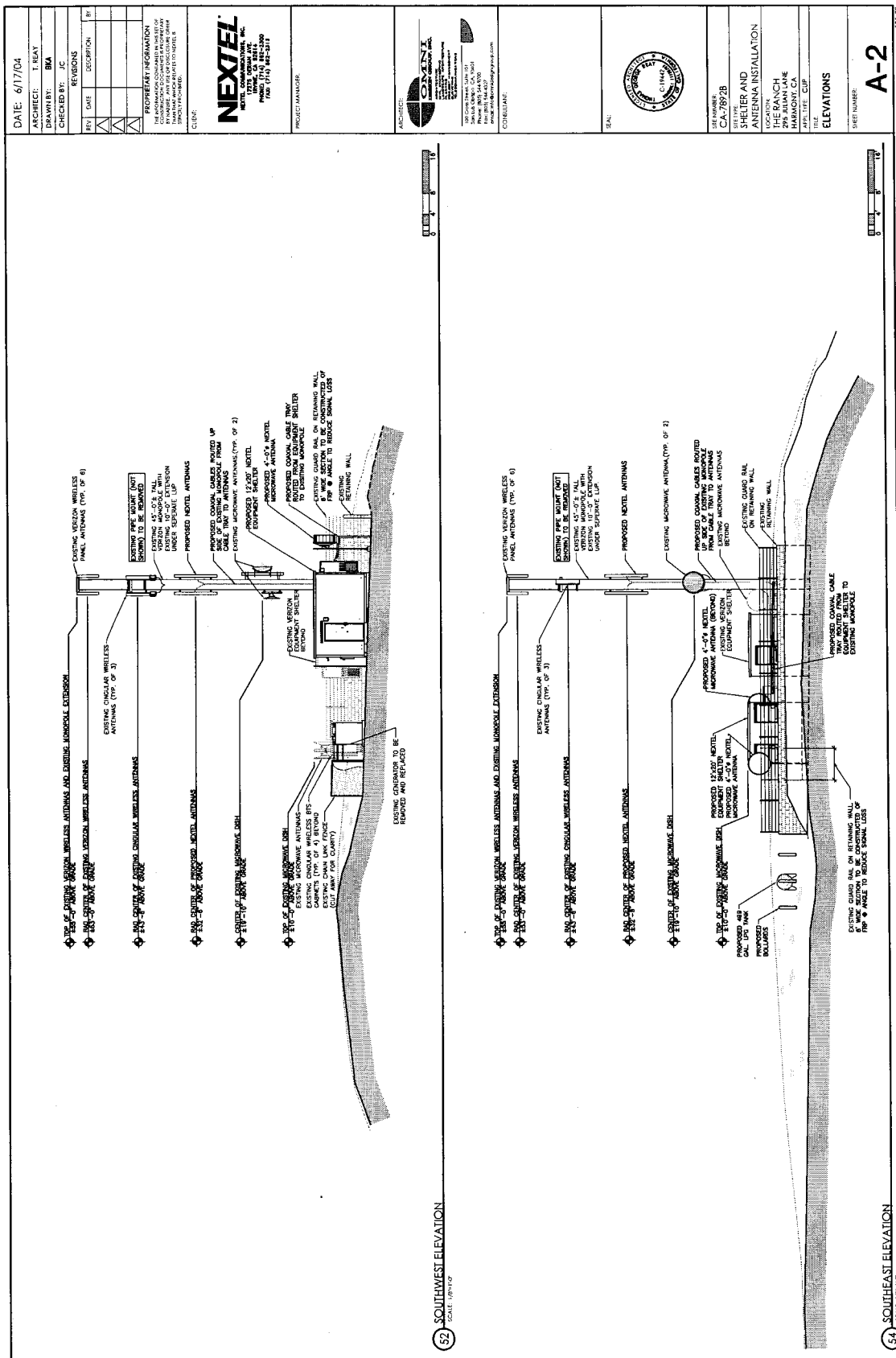
 Site Number CA7892B

Site Address: 295 Julin Road Cambria California 93428

Number of Antennas:	Sector A : 60°	Sector B: 150°	Sector C: 330°
1. Whip:			
2. Dish:			
3. Panel:	1	1	1
4. Smart:			
5. Other			

Antennas & Transmission Characteristics	Sector A	Sector B	Sector C	Microwave	Other
Antenna Height (Centerline):	32.5	32.5	32.5		
Proposed (AMSL):					
Future (AMSL):					
Antenna Type (model):	DR65-12-05DBL	DR65-12-05DBL	DR65-12-05DBL		
Antenna Size (H, W, D):	96 x 12 x 7	96 x 12 x 7	96 x 12 x 7		
Antenna Orientation:					
Vertical beam width (deg.)	15.8	15.8	15.8		
Horizontal beam width (deg.)	65	65	65		
Vertical down tilt (deg.)	0	0	0		
Antenna Separation:					
Vertical (if applicable):	5 ft tip to tip	5ft	5ft		
Horizontal (on centerline):					
EIRP (max. dBi/channel):	100w	100W	100w		
Maximum Ant. Gain (dB):	11.8 dBd	11.8 dBd	11.8 dBd		
TX Power at Ant. Port (dB):	5 w	5 w	5 w		
Frequency Assignments:					
Transmit (MHz): List Range	851-866	851-866	851-866		
Receive (MHz): List Range	806-821	806-821	806-821		
Max. Number of Channels	20	20	20		
Transmit Polarization:	Quad Polar	Quad Polar	Quad Polar		
Receive Polarization:	Quad Polar	Quad Polar	Quad Polar		





[illegible]